

Diversification in Pasture subzone

The Pasture Subzone is identified “as lands where no sensitive resources are known to occur”. In this area diversification will allow pasture use by sheep, goats and chicken. If properly managed, this diversification should have only minor and limited impacts. However, the Final EIS discussion does not clarify how these livestock and chickens will be managed. What mechanism or BMP prevents the sheep and goats, placed into the Pasture Subzone, from foraging in adjacent areas that are zoned differently and where sensitive resources do exist? Additionally, while there are limited riparian zones and other areas of sensitive vegetation in the pasture zones, where they exist, they are critical resources specifically due to their scarcity and must be protected. The impacts of unrestricted movement of sheep and goats would include browsing of shrubs, forbs and tree shoots currently not accessible or not a preferred forage species by cattle. This will result in the degradation of the riparian understory and eventual complete loss of the riparian zones in Pasture subzones or nearby subzones with sensitive resources. Therefore, these additional diversification species must be managed through some form of containment/confinement specifically appropriate for those species (eg. fencing intended for cattle may not be appropriate for goats).

Diversification in Ranch Core Subzone

The Ranch Core Subzone comprises a small lease/permit area (< 1% of total). However, the Ranch Core Subzone’s potential to increase pollutant loading to streams, groundwater, wetlands, and degrade water quality and sensitive habitat greatly exceeds its relative size and may be very significant. As stated in our previous comment letter dated September 20, 2019 on the Draft EIS, “ these areas are the most likely of the newly proposed Subzones in the GMP to cause significant water quality and stream habitat degradation under the proposed diversification practices for the following reasons:

1. **Location of Ranch Core Subzones:** due to historic practice of siting dairy complexes and ranch facilities adjacent to creeks and on flat areas, several core areas are in low-lying areas at the base of a sub-watershed in alluvial fans or historic (now drained) wetlands. These areas are subject to frequent flooding, high volumes of converging stormwater flow from upslope hillsides, and creek planform instability (alluvial fan). Other ranch core areas, situated closer to the ridgetops, may discharge pollutants directly to headwater swales and small tributaries or be susceptible to more extreme weather than low-lying areas.
2. **Impact of existing degradation in Ranch Core Subzone:** Due to existing degradation of habitat and vegetation, these areas have little pollutant buffering and pollutant assimilative capacity. The proposed diversification activities will generate a higher pollutant loading and direct discharge to adjacent waterbodies in these areas due to a lack of existing vegetative buffers (filter strips, soil vegetative cover, and complex riparian zones. For instance, in many areas an increase in diversified livestock use will generate additional erosion due to presence of bare earth and there will be less pollutant filtration due to the lack of a complex riparian zone.

3. **Diversification activities in Ranch Core Subzone:** the actual proposed diversification activities have the potential to generate significant pollutant discharges due to the nature of the activities (see below - diversification activity impacts).

4. **Technical or financial infeasibility of implementing appropriate BMPs, management or mitigation measures to eliminate or reduce impacts:** In some Ranch Core locations, the suggested mitigation measures, such as “comply with requirements in the General CAF permit” may not be adequate. For example, the requirement to eliminate stormwater run-on into areas containing waste products, may be technically or financially infeasible. In the locations where the measures cannot successfully be implemented, there will be significantly greater impacts than identified in the EIS. Further, the actual impacts of installing the necessary measures, for many of the diversification activities have not been fully considered. “

Required Timeline for Appendix F mitigation measures : The Final EIS , Appendix F, includes mitigation measures intended to reduce pollutant impacts from diversification in the Ranch Core subzone (see comments below related to the adequacy of these measures). The Final EIR states that implementation of these measures will be required in the ROA. However, the timeline for implementation and determination that they are functioning as intended is not identified. A subset of the measures proposed in Appendix F may be technically or financially infeasible for the rancher or 3rd party to implement. In many cases, this will be apparent during the time of the annual ROA meetings and diversification requests. However, this will not be apparent in all cases and there should be a requirement that the measures are identified, designed, implemented and determined to be functional prior to the onset of diversification activities.

Impacts from Specific Diversification Activities in Ranch Core Subzone

Species Diversification impacts: livestock and other species allowed to be in the Ranch core subzone include chickens, sheep, and goats. Further, horses and horse boarding are allowable diversification activities. The Final EIR (Pg 42) states “ any confinement of these species would be required to meet SFBWQCB regulations for confined animal facilities and any other applicable regulations.” These regulations include, but are not limited to stormwater controls, and manure and nutrient management. However, the final EIS does not state that these animals require containment/confinement in the Ranch Core subzone. At the allowable AUs described in Table 6 (pg 43), without containment/confinement, these animals could have significant water quality and habitat impacts due to the reasons stated above. Adverse aquatic habitat impacts associated with improper waste management and application may include: nutrient enrichment resulting in algal blooms , organic waste loading resulting in lowered oxygen levels, siltation of gravel areas that can eliminate fish habitat, high levels of ammonia that are toxic to fish and aquatic invertebrates, and elevated levels of nitrates and other salts in groundwater. Additionally, animals whose movement is not controlled through fencing or other methods may further degrade riparian zone, wetland, or other sensitive habitat and lead to further loss of the function of those habitats, including pollutant filtration, shade and stream temperature control, and streambank and soil stability.

The final EIS should clearly indicate that the diversified livestock will be corralled/fenced. If this is not clearly stated, then the impacts of free range livestock in the Ranch Core subzone must be thoroughly analyzed. If livestock are confined¹¹, the requirements of the General CAF WDR must be met. Even so, the EIS still should fully identify and evaluate potential impacts associated with CAF operations including ground water impacts

Note; I need to tidy up the water use section

Water use: the Final EIS does not adequately identify all the increased water demands associated with the proposed diversification activities. The draft EIS identifies the volume of daily drinking water consumption by goats, chicken, and horses, and this increased use is relatively minor. However, numerous water demands are not considered including: wash water needed for horse boarding facilities including horse and stall washing; wash water for management of CAF facilities; water use for public use and enjoyment including overnight facilities (cooking, showers, restrooms, etc.); flower/vegetable gardens associated with landscaping for overnight facilities; crop produce and equipment wash water; cheese making or other commercial process manufacturing water. While crops are required in the Final EIS to be “nonirrigated” the leasee may petition the NPS to allow an irrigated crop. The Final EIS does not allow any new water demand to be met through the development of a new well or new water right. However, it does permit use of existing wells, redevelopment of existing wells, and use of existing storage ponds. Allowing activities that significantly increase water demand, whether it is from an existing water source, or a new source, may further reduce stream flow, wetlands and groundwater recharge. Research in the Olema Creek watershed by the University of California-Berkeley has found reduced Coho growth and mortality in Olema tributaries due to low flow conditions. Further, increased demand on ponds/reservoirs could result in lowering of reservoir water levels, reduce their capacity to meet demands during droughts, and decrease pond wetland and amphibian habitat.

For certain diversification requests (e.g. growing irrigated crops) the rancher is required to demonstrate there is capacity to support the proposed water demand. This requirement should be more specific in what is included and should require involvement from NPS hydrologist or other appropriately qualified staff

Further, all diversification requests and associated ROA development should include a NPS evaluation of existing water resources, current and future water demand if diversification is allowed. The analysis should be adequate to demonstrate that there will be no localized or cumulative impact of diversification activities on sensitive resources, streamflow, and groundwater resources due to water usage.

¹¹ California Code of Regulations, Title 27 section 20164, defines a CAF as “... any place where cattle, calves, sheep, swine, horses, mules, goats, fowl, or other domestic animals are corralled, penned, tethered, or otherwise enclosed or held and where feeding is by means other than grazing.”

Note; I need to check to make sure the ROA is the correct vehicle for the NPS analysis- I think so but wil double check

Row crops: Row crops have the potential to increase soil erosion and discharge of sediment to streams; increase nutrient runoff from manure or compost application; increase the need for invasive plant control, as conditions for invasive plant germination and dissemination are improved ; increase soil compaction; alter stormwater flow paths and increase runoff leading to a decrease in groundwater recharge and altered stream hydrology (low and high flow). NRCS mitigation and management measures are identified in Appendix F . However, it must be noted that these management measures are intended to minimize and reduce pollutant generation and impacts, not eliminate them. Many of the Ranch Core subzones are located near drainages that discharge to sensitive waterbodies supporting endangered specie (e.g. salmonids, freshwater shrimp, red-legged frog). The impacts from this use have not been adequately evaluated in this Final EIS and therefore this use should not be allowed without further NEPA review that incorporates site specific sensitive resource evaluation, constraints and impacts.

Diversification incorporating public use and enjoyment: the Final EIS (pg 134) makes the finding that other diversification uses, including farm stays, ranch tours.....are not anticipated to affect water quality conditions within the planning area.....these activities are limited to adaptive use of existing structures, which would limit the number of people and activities that that could be accommodated and the amount of water that would be needed. Rancher proposals for farm stays, ranch tours and farm sales would have to document that any additional water needed to support these uses would not cause unacceptable impacts to water resources and that septic systems are adequate to support the proposed level of use.”

Comment: Water use issues should be addressed as described above under Water Use. However, numerous other potential impacts are not identified and discussed due to the finding that the “ adaptive use of existing structures would limit the number of people and activities”. The Final EIS does not provide any information on the maximum or average number of units/ people that could stay in adapted existing structures or limits/averages on number of guests on a farm tour. These are necessary to substantiate the finding that these impacts are limited due to constraints on the level of usage/activity possible.